

CLAIMS

What is claimed is:

1. A method of encrypting an original string, comprising:
selectively defining a set of factors that represents factors to be used for encrypting the original string;
defining an encryption equation that transforms the original string to an encrypted string and that generates corresponding derivatives;
selectively defining a set of derivative equations that represents relationships between the factors and the derivatives to introduce a predetermined degree of randomness in encrypting the original string; and
encrypting the original string using the derivative equations and the factors.
2. The method of claim 1, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from events.
3. The method of claim 1, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from values provided by equations.
4. The method of claim 1, wherein the derivative equations comprise mathematical functions that are defined in terms of the factors.
5. The method of claim 1, wherein the number of the derivative equations is at least equal to the number of the factors.
6. The method of claim 1, wherein the original string is comprised of

characters.

7. The method of claim 1, wherein the encryption equation comprises a mathematical function of a character of the original string and of the factors.
8. The method of claim 1, further comprising determining factor decryption equations for mapping the derivatives to a plurality of mapped factors.
9. The method of claim 8, further comprising determining a decryption equation as a mathematical function of an encrypted string in the encrypted string and the plurality of mapped factors.
10. The method of claim 9, further comprising storing the encrypted string in a database with a set of stored derivatives.
11. The method of claim 10, wherein the set of stored derivatives contains a plurality of false derivatives that will not be used to decrypt the encrypted string.
12. The method of claim 1, further comprising decrypting the encrypted string based on the derivatives and the derivative equations.
13. The method of claim 1, wherein selectively defining the set of factors comprises defining at least one factor.
14. The method of claim 1, wherein selectively defining the set of derivative equations comprises defining at least one derivative equation.

15. A system for encrypting and decrypting an original string, comprising:
an implementor selectively defines a set of factors that represents factors to be used for encrypting the original string;
the implementor further defines an encryption equation that transforms the original string to an encrypted string and that generates corresponding derivatives;
the implementor further selectively defines a set of derivative equations that represents relationships between the factors and the derivatives to introduce a predetermined degree of randomness in encrypting the original string; and
an encryption module encrypts the original string using the derivative equations and the factors.

16. The system of claim 15, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from events.

17. The system of claim 15, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from values provided by equations.

18. A computer program product having instruction codes for encrypting and decrypting an original string, comprising:
a first set of instruction codes that represents factors to be used for encrypting the original string;
a second set of instruction codes that defines an encryption equation for transforming the original string to an encrypted string and for generating corresponding derivatives;
a third set of instruction codes that defines a set of derivative equations representing relationships between the factors and the derivatives and that

introduce a predetermined degree of randomness in encrypting the original string;
and

a fourth set of instruction codes for encrypting the original string using the derivative equations and the factors.

19. The computer program product of claim 18, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from events.

20. The computer program product of claim 18, wherein the set of factors comprises any one or more of: constant values, numbers, objects, and random values that are derived from values provided by equations.